ABSTRACT

The invention provides a method of growing an (In,Ga)N multilayer structure by molecular beam epitaxy. Each GaN or InGaN layer in the multilayer structure is grown at a substrate temperature of at least 650ºC, and this provides improved material quality. Ammonia gas is used as the source of nitrogen for the growth process.

Ammonia and gallium are supplied to the growth chamber at substantially constant rates, and the supply rate of indium to the growth chamber is varied to select the desired composition for the layer being grown. This allows the structure to be grown at a substantially constant growth rate.

The substrate temperature is preferably kept constant during the growth process, to avoid the need to interrupt the growth process to vary the substrate temperature between the growth of one layer and the growth of another layer.